Kunal Kapila
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Bachelor of Science, Mathematics and Scientific Computing   home.iitk.ac.in/∼kunalkap/

Double Major, Computer Science and Engineering   +91-9005685064

Education

- **Indian Institute of Technology, Kanpur**   *2014 - 2019 (Expected)*
  Cumulative Grade Point Average 9/10
- **All India Senior School Certificate Examination (AISSCE)**
  Central Board of Secondary Education (CBSE), Govt. of India; Delhi Public School, R. K. Puram
  - 98.2% (School Topper) with National top 1% in Computer Science & Chemistry   *2014*
  - Cumulative Grade Point Average (CGPA) 10/10   *2012*

Academic and Co-Curricular Achievements

- Secured AIR 116 in **JEE Mains** 2014 & AIR 1306 in **JEE Advanced** 2014 amongst 1.5 million candidates
- Secured Rank 29 & 54 in **ACM-ICPC Amritapuri** Onsite & Online Round 2015 respectively amongst 1500 teams
- **Microsoft Code.Fun.Do**
  - **Winner 2014-15**: Graphing app to plot implicit 2D Mathematical Functions for Windows Phone Platform
  - **National 5th, Coding Milestone, Finalist Forum 2014-15**: Educational app for Windows Phone Platform
  - **Winner 2015-16**: Front-end for open source program simulation code for Microsoft Windows Store
- Qualified for & attended **International Olympiad of Informatics Training Camp** 2014
- **Kishore Vaigyanik Protsahan Yojna** Fellow 2013, Department of Science & Technology, Government of India
- **National Talent Search Examination** Scholar 2010, conducted by NCERT, Government of India

Work Experience

- Development Intern, **IITK NYC Office**   *MAY 2016 - current*
  Supervisor: Prof. Manindra Agrawal, Department of CSE, IIT Kanpur
  - Working on the backend of a distributed web application
  - Refactored the core code base to make managing code easier including the database schema
  - Currently implementing the feature of efficiently recording history of changes made on a specific data
- Web Developer (Intern), **Elanic**, Bangalore   *DEC 2015*
  - Full stack developer: MongoDB, AngularJS and NodeJS along with Restify framework
  - Built REST APIs for notification, engagement(likes, comments) and search (using Elastic Search) modules

Projects

- **PhotoProof**: Cryptographic Image Authentication   *JUN 2016 - current*
  Supervisor: Prof. Nasir Memon, (Department Head) Department of CSE, NYU School of Engineering
  - Understood the theoretical model for image authentication based on Proof-Carrying Data (PCD)
  - Currently working on a practical implementation of the idea described in the paper using libsnark's PCD
- **Cimulator**: a Visual & Interactive Tutoring system   *Click here for* **Tutorial**   *MAY - JUL 2015*
  Supervisor: Prof. Amey Karkare, Department of CSE, IIT Kanpur   Tested by 400 students in Fall 2015
  - Interpreter for C language in python, modelled memory artificially, handled external header files & overflows
  - Prompts user with possible corrections for runtime errors instead of crashing abruptly (unlike gcc)
  - Web interface to **simulate C codes** that were interpreted by Cimulator to provide visual cues to the user

Relevant Courses Undertaken   (A*) Awarded for exceptional performance   (*) Courses in Progress

- **Mathematics**: Real Analysis, Complex Analysis, Introduction to Fourier Series (*), Several Variable Calculus(*), Abstract Algebra, Commutative Algebra (*), Elliptic Curves & its Applications (*), Probability & Statistics, Logic
- **Computer Science**: Fundamentals of Computing (A*), Data Structures and Algorithms (A*), Algorithms II (*), Modern Cryptology, Principles of Database Systems, Introduction to Computer Graphics
- **Others**: Introduction to Economics (A*), Introduction to Philosophical Logic

Technical Skills

- **Languages**: C, C++, Python
- **Web Development**: HTML, CSS, Javascript, PHP, Node.js (Express, Restify), AngularJS, MySQL, MongoDB
- **Tools**: Vim, Git, LaTeX, OpenGL, SDL, Octave

Positions of Responsibility

- **Coordinator, Programming Club**, Science and Technology Council, IIT Kanpur   *MAR 2016 - current*
  - Conducted several lecture series, workshops and competitions on Algorithmic Programming, Open Source Development, and Web Development for students of the campus community
  - Organised the summer camp and mentored over 60 students who completed projects in various fields
- **Head Web, Antaragni**, Students' Gymkhana, IIT Kanpur   *MAR 2016 - current*
  - Conceptualised and designed the website for Antaragni 2016 (*http://antaragni.in/*)
  - Implemented server using MEAN stack along with *ejs* for templating & *passport* for facebook authentication